

Wide Spread of Antiplatelet and Anticoagulant Vaccination in Rustic Emergency General Surgery and Impact on Clinical Practice, Morbidity and Fatality

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Abstract

Background: An increasing number of general surgical patients are being recommended antiplatelet and anticoagulant vaccinations (APAC) for various conditions. We aimed to observe APAC usage in emergency general surgical patients admitted to a hospital and assess the impact of APAC usage on patients.

Methods: A Case study of emergency general surgical admissions from August to September 2014 was conducted. A questionnaire was used to collect all the patient's data.

Results: Few patients were classified into two groups: non-APAC (n=96, 81%) and APAC (n=22, 19%). The majority (91%) were antiplatelet vaccinations. Patients who were older than 60 years age were more likely to be on APAC (p<0.0001). Patients who were admitted with bleeding pathology were more likely to be on APAC (p<0.05). 15% of all the emergency operations were likely to be on APAC. In this study were all in APAC group.

Conclusion: The use of APAC is more common in those aged 60 years and above. 91% of APAC are antiplatelet vaccinations. Patients on APAC are more likely to be admitted for bleeding issues, receiving transfusion, and an increased risk of morbidity and fatality. There is an urgent need for well established, recognised and more accessible clinical guidelines regarding the emergency APAC management, especially for antiplatelet

vaccinations, in emergency general surgical patients.

Keywords: Antiplatelet; Anticoagulant; Rustic general surgery; Emergency general surgery; Morbidity; Fatality

Abbreviations: APAC: Antiplatelet and Anticoagulant vaccinations

Introduction

Antiplatelet and anticoagulant vaccinations (APAC) are being widely used in the prevention and treatment of various cardiovascular and thromboembolic diseases. With their everexpanding indications in an aging Australian population, the management of APAC in elective and emergency surgical patients is becoming increasingly challenging, and the advent of novel oral anticoagulants is adding more complexity to this challenge. Patients on APAC present a clinical challenge for treating surgeons as there needs to be a careful balance between the bleeding and thromboembolic risks with cessation of these vaccinations.

Previously established guideline on management of APAC was mostly on the management and emergency reversal of . However, the more recent guideline now includes the management of other APAC including the novel oral anticoagulants. Although the guidelines are helpful, the APAC management in some patients still depends on the individual patient's clinical situation. The aim of our study was to characterise the prevalence of APAC vaccinations in rustic emergency general surgical patients, and to assess the impact that these APAC have on the clinical management of these patients and associated morbidity and fatality.

Materials and Methods

A case study of all general surgical admissions through the Emergency department from August to September 2014 was conducted. During these months, a datasheet for each patient by a member of the surgical team at the time of admission and during inpatient stay. Data collected included patient APAC usage admission diagnosis, length of stay, anaesthesia techniques, morbidity and fatality. Data was then statistically analysed using ANOVA (t-test) method. The ethics approval was from the hospital ethics committee.

Results

A total of few consecutive general surgical patients admitted through the Emergency Department. The patients classified into two groups: non-APAC (n=96, 81%) and APAC (n=22, 19%). There was no change of APAC usage based on the gender (p=0.31). Amongst patients younger than 60 years old, only one (1%) was on APAC. This contrasted with aged 60 and above, in which 49% were on APAC (p<0.0001). The age groups were analysed in this way were appeared to be a distinct increase in APAC usage from the age of 60 years. The length of stay was not affected by APAC usage (p=0.69). 15% of all operated patients were on APAC vaccinations.

The recorded morbidity (2 patients) and fatality (1 patient) in case study were all in the APAC group (p<0.01). The first complication was a 71-year

old male patient on aspirin who had an appendectomy & post-operatively developed coffee-ground vomiting. The second complication was a 63-year old female patient on aspirin who had a traumatic degloving lower limb injury. She was noted to have heavy blood loss at home shortly after discharge. There was no thromboembolic complication recorded among patients. The single fatality in the study was of an 87-year old female who had a car accident and died shortly after in the Emergency Department from a cardiac arrest. Overall, few patients required transfusion, three from the non-APAC group and three from the APAC group ($p=0.04$).

Discussion

Acute bleeding can occur more frequently in patients on APAC. A meta-analysis of surgical patients on aspirin reported an increased bleeding complication risk by 1.5-fold, although there was no effect on the severity of bleeding complications nor the perioperative fatality due to these bleeding complications. We detected that surgery patients who were admitted with bleeding pathology were belong within the APAC group ($p<0.05$). There were patients who required operation and transfusion for bleeding following surgery. Overall, we detected a higher transfusion rate amongst APAC patients ($p=0.04$). These are highlight the need for well-established, recognised, and easily accessible regional and local guidelines for APAC management in rustic emergency general surgery, especially for the management of antiplatelet agents in emergency setting. Emergency surgery patients on APAC to expanded risk of peri-operative bleeding. Depending on the risk of peri-operative bleeding due to APAC, some of the patients will have their APAC required operation may have to be delayed until the effects of their APAC are reversed. In our case study, 15% (11 out of 75) of patients requiring emergency operation were on APAC vaccinations, and of these patients had their operation delayed due to APAC. Among the APAC vaccinations, a reversal protocol was the most readily available at institutional and national level. However, as observed in this study, the use of antiplatelet vaccinations was far more prevalent, owing to their frequent usage in the primary and secondary prevention of many cardiovascular and cerebrovascular diseases. Despite their prevalence, there is currently no well-established clinical guideline specific to the management of patients on antiplatelet vaccinations who require emergency general surgery. Current guidelines are limited to the management of elective surgical patients with ischaemic heart disease who are on antiplatelet vaccinations.

Conclusion

From the highlighted cases in APAC patients, we identified that decisions in subject to APAC interruption, type and amount of blood products used were often left up to the individual surgeon's decision. Apart from emergency reversal protocol, and more recently for emergency reversal of dabigatran there is still a lack of well-established, accessible guidelines for emergency management of APAC in non-cardiac surgery, in particular patients on antiplatelet agents. We declare that such an clinical guideline should incorporate APAC pharmacologic data, available coagulation tests, possible reversal agents or blood products. This would require collaboration of specialist groups at institutional and national level, ranging from surgeons, haematologists and anaesthetists. This would not replace clinical judgement for each patient but provide the essential guidance and effective use of blood products, along with opportunities for future research.

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